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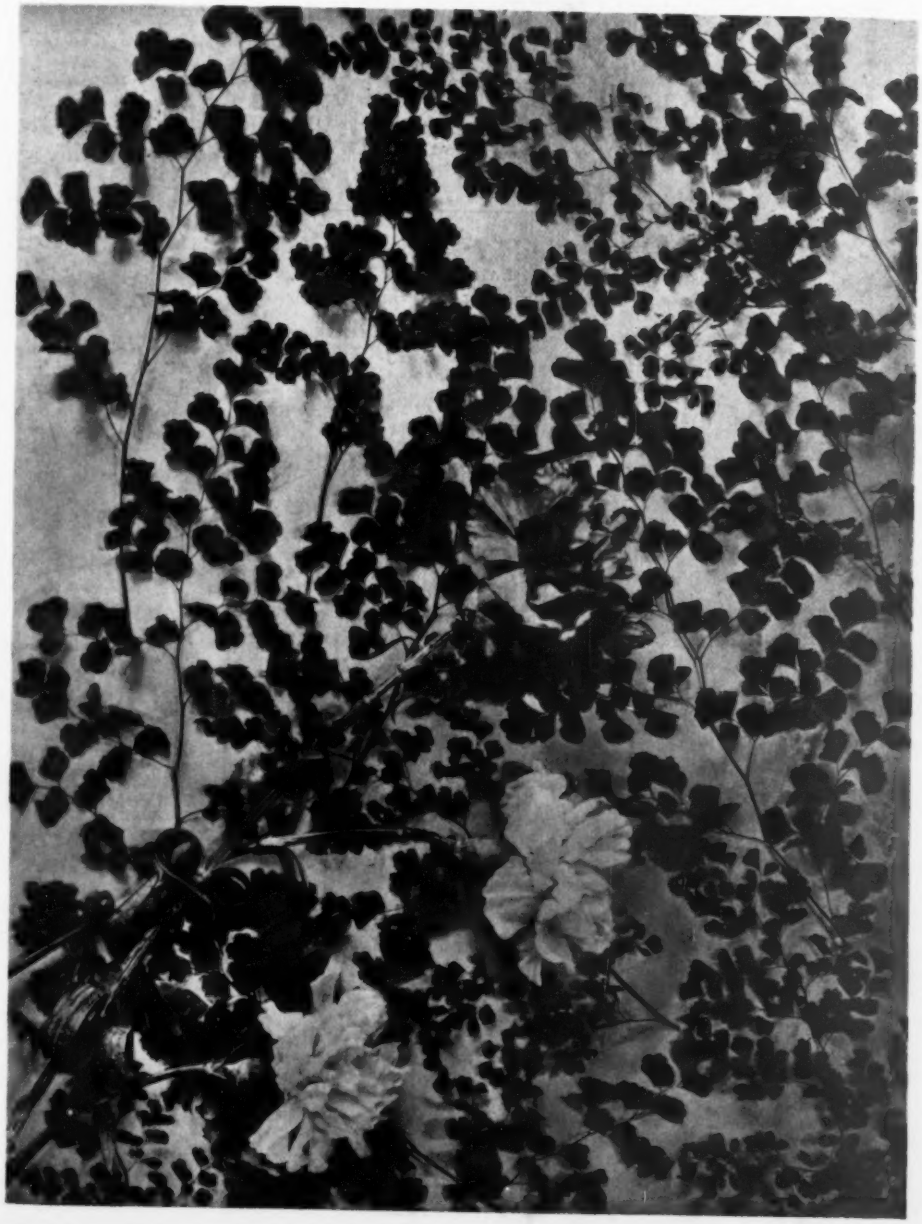
The Cornell Countryman



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February 1908

CONTENTS

		Page
Cover Design—Ferns and Carnations	Photo by Troy	
Frontispiece—A Canadian Vineyard		146
Fruit Growing in Ontario	*P. W. Hodgetts*	147
Certified Milk	*Ernest Kelly*	151
The Winona Agricultural Institute	*W. C. Palmer*	153
A Few Impressions From a Summer in Europe	*A. D. Taylor*	156
The Short Course Aspect		159
Why I Came to Cornell	*A. G. Steer*	160
The Winter Course as the Farmer Sees It.	*W. A. Lippincott*	161
How a College Graduate Regards the Winter Course	*A. G. Fletcher*	161
Making Good on the Farm	*H. Mason Knox*	162
Some Biological Aspects of Agriculture—IV. Conclusion	*V. McCaughey*	166
Editorials		
Professor Duggar		169
A Notable Victory		169
Farmers' Week		169
The Alumnus' Part		170
The Banquet		170
Retrospective and Otherwise		170
Rewards of Ambition		171
General Agricultural News		171
Campus Notes		173
Former Students		175
Book Reviews		178

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A TYPICAL VINEYARD OF THE NIAGARA DISTRICT

The Cornell Countryman

VOL. 5 FEBRUARY, 1908 NO. 5

FRUIT GROWING IN ONTARIO

By P. W. Hodgetts

Department of Agriculture, Toronto

ONTARIO, while not the oldest fruit growing province in the Dominion of Canada, undoubtedly holds first place as the greatest producer of commercial fruits, both for home and export trade. With a population at once large and wealthy (2,200,000 in 1901), she offers unexcelled opportunities for the grower who caters specially to these home markets. As yet, the commercial peach orchards and vineyards of Canada are confined almost entirely to her boundaries, and surrounding her are immense and populous territories that are dependent upon her for these and other tender fruits. By care in the handling of the apples from her countless orchards, she has won for herself a reputation in the markets of Great Britain that is yearly bringing in millions of dollars to her farmers. Taking everything into consideration, the prospect is bright and alluring to the Ontario boy who intends to make fruit growing his life work.

Many of our friends in the United States who have never closely studied the map of this continent will be surprised to learn that the southern limit of Ontario is below the 42nd parallel of latitude: the northwest boundary line of the United States is the 49th. The southern parts of the Province are further south than Boston and Chicago, while practically all of our two millions of inhabitants are south of a straight line drawn from the Soo to Portland, Maine. This territory has been settled largely within the past 100 years, while commercial fruit growing dates back probably 50 years. What apple trees existed in 1850 were still largely seedlings, and the product was measured, not as now in barrels of delicious apples, but in gallons of cider. However, a beginning was made, and in the returns from the exhibition of the old Upper Canada Agricultural Society in 1855, there are mentioned as being shown, the well known varieties, Northern Spy, Greening, Pomme Grisé, Baldwin, Seek, Spitzenburg, Bellflower and Roxbury Russet.

During the next 25 years, planting was carried on vigorously all over the Province, and while, fortunately, the standard winter varieties predominated, yet, there were too many summer and fall varieties mixed in, and all the trees were set too close. In the West, orchards were numerous but small, while in the East the growers planted on a larger and better scale, and have consequently reaped greater profits. As these orchards came into bearing, the supply of fruit exceeded the local demand and in years of plenty, the waste, especially of fall fruit in the western parts of the Province, was enormous. As profits decreased, the farmers neglected their orchards and turned to other crops for their living. Along the Lake Erie shores and in Niagara peninsula, the lure of greater returns from the tender fruits such as peaches

pears, plums and grapes, led the growers to cut down their apple orchards and plant largely of these fruits.

Today with an area of 13,931,437 acres under cultivation, Ontario devotes 380,332 acres to the production of fruits of all kinds.

There are approximately, ten and one-half million apple trees, one-half million peaches, one million pears, two million plums, three-quarters of a million cherries, three million grape vines, while small fruits hold the balance of 10,000 acres. It is estimated that the yearly increase in apples amounts to 2%, the greater portion being along the north shore of Lake Ontario. The increase in the acreage under tender fruits is almost altogether in that part of the Niagara district extending from the New York boundary at the Niagara River to Hamilton at the end of the lake and north of the height of land running through this district.

Running rapidly over the Province from east to west we find certain well defined fruit districts, determined largely by the proximity of the land to the lakes and rivers. The front of the counties bordering along the St. Lawrence River, from the Quebec boundary westward to Kingston is the home of the famous McIntosh, the Scarlet Pippin, and the Brockville Beauty and bordering so closely on the home of the Fameuse that this famous dessert apple also succeeds to perfection. It is distinctly a dessert apple country though the Milwaukee, Scott, Winter, Baxter and other hardy winter apples are gaining in favor.

From Bellville west along the north shore of Lake Ontario as far as Toronto are the large commercial apple orchards of the Province. Passing through on the Grand Trunk railroad from Montreal, the traveller is at once struck with the immense acreage here planted to this fruit. Large storage and packing houses are seen at every station, and during the shipping season cars of all descriptions are loading on the tracks. The orchards of this section are of all ages and no better evidence need be given of the prosperity of the fruit industry than is shown in the large and increasing plantings of the standard winter export apples. The varities here largely grown are the Spy, Baldwin, Ben Davis, Stark, Greening, Wealthy, Wagener, Fameuse and King.

This district is comparatively free from scab in ordinary seasons but suffers from the codling moth and the oyster shell bark louse. The latter insect is causing some alarm owing to its tremendous increase in the past few years. Spraying has become more general the last two seasons and a large number of power machines are now in operation there. Five co-operative shipping associations operate in this district.

From Toronto around the lake shore to the Niagara River is the largest tender fruit belt of the Province. Of the counties here, Halton and Peel besides having large acreage of apples and pears raise immense quantities of strawberries and other small fruits for the eastern and local markets. Wentworth county boasts of the grand total of 1,347,000 fruit trees within its boundaries. Seen from the edge of the mountain the narrow northern section of this and the adjoining county of Lincoln seems like one continuous orchard of cherry, peach, pear, plum and apple interspersed with the long rows of the vineyards. Lincoln claims the greatest acreage in vineyards (4940) and is probably the centre of the canning industry.

From the stations at St. Catharines and Grimsby in Lincoln County and Winona in Wentworth County are shipped hundreds of carloads each year to the maritime provinces in the east and clear through to British Columbia in the west. While the western provinces have always provided a market for a considerable quantity of our apples, only of recent years has the trade increased so rapidly for our grapes, pears, tomatoes and other tender fruits. The effect has been to prevent, to a large extent, gluts in the markets of Ontario and Quebec and to considerably increase the prices

12 YEAR OLD APPLE ORCHARD IN (TRENTON) BAY OF QUINTE DISTRICT

obtained for our fruits during the entire season. As an instance of the business carried on here, the St. Catherines Cold Storage and Forwarding Company, an organization composed entirely of fruit growers, handled the past season 400,000 baskets besides large quantities of fruit in boxes and barrels.

In the two counties just mentioned and the adjoining county of Welland is raised 90% of the nursery stock sold in Ontario. Three nurseries each claim to have from 500 to 850 acres in growing stock while numerous others are in the business on a smaller scale. In addition, the canning industry is carried on at some fifteen factories where immense quantities of all kinds of fruits and vegetables are disposed of at good prices in most cases to the producer. The greatest drawback here is the San Jose Scale. Despite a vigorous fight on the part of the growers aided by the Provincial Department of Agriculture, the insect has spread rapidly to the west and south, wiping out numerous orchards in its path. The old apple orchards have suffered severely and have been rooted out in many instances to make way for peaches and grapes on which these and other diseases can be more readily combated. The steam or fire cooked lime sulphur mixture with a formula generally of from fifteen to twenty pounds of sulphur and twenty pounds of lime to the barrel is almost universally used and where properly prepared and applied keeps the San Jose Scale in check.

Passing on to the west, we find apples again predominating along the Lake Erie shores and some distance inland. The orchards are almost all over 25 years old and comparatively little planting has been done of late years owing to the causes given in the preceding paragraphs. Within the past three years, the co-operative packing and shipping associations have infused new life into the growers in this and other parts of the west and today the orchards are being rejuvenated, pruned and sprayed, manured and cultivated as never before. With wholesale prices per barrel ranging from $2.50 to $3.50 f. o. b. at sta-

tions for winter stock, this year promises to be a record one in the annals of apple growing in Ontario and will go a long way toward awakening the growers to the value of their trees.

In the extreme western peninsula, the most southern section of the Province, conditions have probably changed more than in any other part. A few years ago grapes, peaches, pears and plums were raised in immense quantities, one grower in Essex having over a hundred acres in peaches alone. The rot quickly cleaned out the grapes before a remedy could be found for it, while three bad frosts in a period of seven years, together with the inroads of the San Jose Scale, played havoc with the other fruits. Today these growers have turned their attention to truck crops and tobacco, and will probably never go in for tender fruits again on the same scale as in the past.

North along the Lake Huron shores and back inland for many miles are to be found numerous and good apple orchards, while as we come around to the shores of Georgian Bay we come across a section of the country eminently suited not only to apples but also to plums and the hardier peaches. The European plums of all varieties are in evidence everywhere. Large orchards of this fruit were planted some years ago but owing to over production and lack of facilities for proper distribution of the crop, neglect has ruined many thousands of fine trees. The apples of this section have received special praise and good prices have been netted the growers for many years. Here as in other sections co-operative associations are doing excellent work among the apple growers.

The inland counties in the west, owing largely to a higher altitude, have never made a success of fruit growing in any of its branches. Probably the only exception is the land around Lake Simcoe, a large shallow body of water due north of Toronto. Here the prospects are more favorable and a considerable acreage is being planted yearly to best northern varieties of apples. The balance of the Province northeast and northwest can raise only the hardiest of tree fruits and then only in favored locations. The commercial orchards are confined altogether to those portions of the Province already briefly described.

Perhaps the one thing in the Province which has awakened most interest among fruit growers, especially the apple orchardist, is that of co-operation in the packing and marketing of fruit. This has touched the right spot—cash, and more of it for the grower, not the dealer. Through the Provincial Fruit Growers' Association and the Department of Agriculture, a considerable number of such associations have been formed and are working successfully. Their by-laws are more or less uniform, and a central organization keeps them in touch in regard to market conditions and prices. Supplies of all kinds, including spraying machinery and chemicals, fertilizers, and packages are purchased in wholesale quantities at correspondingly low prices. Some associations run their own cooper shops, evaporators, power sprayers, etc. Many have erected commodious packing houses while all have more or less stringent rules governing the conduct of their members in regard to spraying and picking their fruit.

Educational work in horticulture along this and other lines has been carried on by the Agricultural Department assisted by the Provincial Fruit Growers' Association. A number of fruit experiment stations started ten years ago largely through the efforts of Prof. Craig of Cornell, then Horticulturist at the Dominion Experimental Farm, Ottawa, have done excellent work in determining the varieties best suited to various parts of the country and in weeding out hundreds of varieties much advertised in various quarters as being profitable sorts. The results of the ten years of experimental work has been summed up in an excellent report entitled the "Fruits of Ontario" which is now being distributed to all commercial fruit growers in the Province.

The Fruit Growers' Association of Ontario, together with some thirty or more district and local associations, has also performed valuable service in the past fifty years in guiding legislation, seeking and obtaining improved transportation rates and facilities, holding exhibitions of fruit, etc. The Provincial Department of Agriculture has spent hundreds of thousands of dollars fighting the San Jose Scale, spreading the gospel of good spraying by means of timely literature, orchard meetings, etc., aiding in the purchase and distribution of power spraying outfits and chemicals, supervising the fumigation of all nursery stock sold in the Province, and in other ways too numerous to mention.

Looking at the older apple orchards of to-day, one regrets that first, fewer varieties, especially of fall fruit were not planted; second, that greater distances were not allowed between trees, at least 35 feet and preferably 40; third, that trees were not headed lower, and with fewer crotches; and fourth, that greater care was not exercised in their subsequent pruning and general care. Profiting by these mistakes, we have again resumed the work of setting out large acreages in fruit, and indeed are already in many counties beginning to reap the harvest,—4,000,000 apples under fifteen years old in the Province but whole blocks of these just coming into bearing. Think of the reward now awaiting those who had faith in the future of Ontario fruit growing!

CERTIFIED MILK

By Ernest Kelly, Sp. '06

PROBABLY the most important advance made along dairy lines recently has been due to efforts all over the country to purify and control the market milk supply; important, because of its strong influence on the decrease of disease and mortality percentages, especially among infants and small children; recent, because it was only a dozen or so years ago that the term "Certified" was first applied to milk. Even now the vast importance of the subject is not as generally realized as it should be; the vitality and the very existence, really, of each succeeding generation, depends upon a proper supply of healthful, nourishing food while the infant is in the most critical stage of its growth. Milk is this food furnished by Nature, and every practical measure, no matter how drastic, should be taken to insure the purity and cleanliness of the market supply.

What is "Certified Milk" and how does it differ from the milk which the majority of us have on our tables? It is milk produced by the best known methods of sanitary dairying, according to rules laid down by some Board of Physicians or Health Board who "certify" the product to be pure and clean. These precautions are taken not so much in regard to the chemical composition of the milk, which remains fairly constant, but to insure the greatest possible cleanliness. The object of this paper is not so much to discuss "Certified milk" in general, as to describe how the subject is profitably handled at one large dairy with which the writer is familiar. The chief obstacle in the production of pure milk is the difficulty encountered in obtaining a price for the product commensurate with the increased cost of production. Many certified milk farms are being operated at little or no profit, while others are operated at an actual loss. There are some however, which stand out clearly as profitable commercial enterprises, and it is such a one that I intend to describe.

Situated about 25 miles from New York, on level, friable land, this farm comprises about one thousand acres, the bulk of which is operated under the most intensive cultivation—a necessary arrangement in view of the fact that between 700 and 750 cows in

milk are kept the year around. Perfect roads reduce the transportation problem to a minimum, and a strong local market in three neighboring towns within eight to ten miles of the farm enables the delivery of the 6,000 quarts of milk produced daily, from one central depot.

First of all in interest and importance comes the herd itself. It consists of cows of every known shape, size and color, the only requisites being that they are absolutely healthy and give a sufficient flow of milk to make them profitable. To insure the former, all cows are tuberculin tested before coming to the farm and after their arrival they are put in the "detention barn" and re-tested. As to dry cows or low producers, the dairy has no place for those who are not paying their board bills, and so they are fattened and sold for beef, being replaced by fresh cows which are bought in the market.

All of these animals must be housed in comfortable, light, airy quarters, and to provide for this there are three large wooden barns and a new concrete structure holding 100 animals. The wooden buildings, which are slate-roofed, are bank barns and the cows are on the second floor, thus allowing a driveway beneath the barn for the removal of manure. The disposal of the waste is at once sanitary and economical; the cement gutters behind the cows are cleaned out three or four times a day and once at night, the manure going through a trap into a large watertight iron box which hangs in the cellar. A similar tank on wheels is used to convey the manure to the fields.

The cows head in, facing each other across an eight foot feeding alley. In front of each section runs a long cement trough the top of which is flush with the floor and it is in this that the cows are both fed and watered. The animals stand on wooden floors and are bedded with pine and spruce shavings which beside their cheapness and absorptive power, are most desirable from a sanitary standpoint. No feed is kept on the floor where the cows are all being stored on the floor above.

The dairy house is constructed of stone masonry work and is two stories high. On the upper floor where the milk arrives from the barns by trolley, is the ice-plant which has a capacity of about ten tons a day. Downstairs is the cooling and bottling room, separated from the rest of the dairy by a concrete wall. In an outer room are the arrangements for cleaning the six thousand bottles which pass through the bottler daily; they are first soaked in a hot solution of sal soda and then are washed on rapidly revolving brushes, after which they are rinsed in two waters and are ready to go into the sterilizer. This is a large, round, iron receptacle into which the bottles are rolled on trucks, its capacity being about 500 bottles. When the doors are closed steam is turned on and the bottles are sterilized for 20 minutes under five pounds steam pressure. In this sterilizer the cans, pails, strainer and everything which touches the milk are steamed just before each milking.

How are so many cows kept on such an acreage? Well, in the first place, all of the grain feeds used, and practically all of the hay fed is bought outside. Then too, the pasturage area is smaller than on most dairy farms, the cows having their green food cut and brought in to them. The first thing in the spring they have green wheat and after that, oats and peas grown together. When these crops are cut the land is at once broken up and planted to corn, so that two crops a year are raised. On land that is cleared too late for corn, turnips are sown. Most of the corn goes into the silos but some is fed green.

The cows are not fed until after milking on account of the dust attendant on the former operation. In preparation for milking the cows are groomed with a curry comb and brush long enough before the milking hour to allow the dust to settle; the manure gutters are cleaned; all floors and walks are swept and sprinkled with water; stanchions, walls and ceilings are brushed with a broom and clean shavings are put under the cows and in the gutters. Once a week the

floors and walls are thoroughly scrubbed with water. About half an hour before milking time all milk pails and cans are placed in the sterilizer and steamed until the milkers are ready to use them.

On first entering the barn, one steps into the preparation room where the men wash, and don their white suits and caps before passing the inspector and going upstairs to milk. Each milker is supplied with a sterilized pail and an iron stool. These pails are constructed so as to allow the least dirt to fall into the milk; the tops are covered, with the exception of a six inch opening which is fitted with a hood, so that the milk must be drawn into the pail on a slant. Just ahead of the milkers goes a corps of men whose duty it is to put the cows in final shape for milking; the cows, which are all clipped around their udders, flanks and bellies, are brushed with a whisk broom to remove any loose hair and dust; then their udders and teats are washed with two separate waters and then dried with a clean towel. These cow cleaners are in charge of a man whose duty it is to watch their work.

There is also a superintendent over the milking gang, which numbers some 30 to 35 men. The milkers milk dry handed; when their pails are full, they carry them to a small room where they hand them through a window to a man inside, whose duty it is to wipe the pail carefully with a damp cloth and then pour the milk into cans which are sent to the dairy on a wire cable.

When the milk goes into the dairy on the second floor, it is poured into a strainer consisting of cheesecloth and two thicknesses of sterile cotton. This strainer protrudes through the ceiling below and delivers the milk at the top of the cooler. The cooler consists of a series of horizontal pipes about ten feet long, through which ice-water is pumped while the milk runs in a thin stream over the outside; in this manner the milk is cooled from about 75 degrees F. to 38–40 degrees in a few minutes. From the tank at the bottom of the cooler, the milk runs into the receiving tank of the automatic bottler and capper where twelve bottles are filled at once and the sterilized paper caps put on. Outside caps of tinfoil are then put on by hand and the bottles are boxed, iced and sent on three horse trucks to the central delivery station.

Milk produced in this manner will keep a remarkably long time; in fact the dairy just described sent milk to the Paris Exposition, won the Gold Medal with it there, brought it home, and found it perfectly sweet upon its return.

THE WINONA AGRICULTURAL INSTITUTE

By W. C. Palmer

Professor of Agriculture and Agricultural Chemistry

THE Winona Agricultural Institute is an evolution. Starting in 1902 as an academy with an agricultural department, in 1906 it changed into a purely Agricultural school.

The work in agriculture was given a practical turn in 1904 when Professor E. J. Hollister took charge of the Agricultural department. He provided a poultry plant, developed a dairy, ran a market garden, started an orchard and carried on general farming, the students doing the work in the different enterprises. The students became so interested in agriculture that they wanted to devote the greater part, in fact all of their time to agricultural work and study, instead of taking up one or two subjects in agriculture and the rest along academic lines. The board of directors also realized that there was need of a school giving practical instruction in agriculture wherein a student could devote his whole time to it. In reor-

MOUNT MEMORIAL, MAIN SCHOOL BUILDING, FROM THE EXPERIMENTAL GROUNDS

ganizing the school in 1906 the course of study was made to cover two years of nine months each.

In the first year the following subjects are taken up, the figures refering to the number of recitations and laboratory periods: Agricultural Chemistry, 168; Soils, 48; Breeds of Live Stock, 84; Poultry, 36; Agricultural Botany, 36; Dairying, 36; Farm Crops, 60; Economic Entomology, 36; Vegetable Gardening, 36; Climatology, 12; Farm accounts, 24; Bible, 72. Second year's work, Agricultural Chemistry, 36; Forestry, 48; Dairying, 72; Farm Engineering, 36; Farm Law, 36; Feeds, 60; Fruit Growing, 92; Agricultural Physics, 48; Breeding, 24; Farm Economics, 48; Farm Management, 24; Veterinary Physiology, 48; Stock Judging, 36; Bacteriology, 24; Parliamentary Practice, 12; Bible, 72.

The instruction is given through class room recitations, laboratory and field work and field trips. Laboratory and field work are given in all subjects that can be taught in that way. In Agricultural Chemistry two recitations and three laboratory periods are given per week. In the study of breeds of live stock, the classes have a good many recitations at the barns using the school herd for demonstration work, and frequent trips are made also to nearby stock farms. In studying soils laboratory work is given in soil physics and trips are also made to the fields, hills and lowlands, to study the soils in relation to plant growth. In the study of poultry incubators and brooders and their workings are studied as well as the breeds of poultry, feeding and management; trips are also made to nearby poultry farms. In dairying the work is nearly all in the laboratory, the students getting practice in the operating of different makes of separators, in milk and cream testing, in cream ripening, in butter making, packing and marketing. In Entomology most of the work is done in the orchard, garden and field, studying the insects at work. In vegetable gardening each student has to plant and care for a 30 by 60 foot garden in addition to class room recitations. In forestry about half the time is given to study and work in the woods and in visiting commercial forests. In farm engineering most of the time is given to drainage problems, surveying, taking levels, establishing grades and finally laying the tile and estimating the cost of the whole operation. In Agricultural Physics a study is made of barn and silo construction, machinery, engines, concrete work, etc.

Whenever possible trips are made to nearby farms, orchards, gardens and dairies in addition to the practical

work that can be given with the school's equipment, the better to familiarize the students with the actual, practical farm problems and to get them to really use their agricultural science. The school has a set of grass and clover plots where some twenty-five of the best clovers and grasses are grown. On another set of plots some fifty of the different agricultural crops are grown. A set of rotation plots are maintained to show the value of rotating crops. The value of different combinations of fertilizers and manures are being determined with corn, potatoes and soy beans. Variety tests are carried on with corn, cow peas, soy beans, oats and barley. A set of plots have been set aside for a weed garden where the different weeds of the country will be grown so that the student can study them first hand. These plots are especially valuable in the study of farm crops, botany and farm management.

The class room work is based on and related to the practical work as far as possible. The sciences are simplified and taught from the stand point of the farmer. In Agricultural Chemistry the aim is to make such a study of the soil, of fertilizers and manures, of plant growth, of animal growth, of feeds, as will be of practical value to the farmer. Then again the subject is presented in such a way that the student can take it up without having studied elementary chemistry. One difficulty in giving practical instruction in Agriculture is the lack of text books written from that standpoint and to overcome this difficulty the writer has prepared his own lecture and laboratory notes on Agricultural Chemistry, Bacteriology, Climatology and Parliamentary Practice. The aim of the school is to prepare its graduates for becoming farm managers, dairymen, gardners, etc., and not for taking up the professional or technical side of agriculture, as the land grant colleges are so ably doing.

The work of instruction is divided into three departments, (1) Agriculture and Agricultural Chemistry, (2) Dairying and Animal Husbandry and (3) Horticulture and Forestry. The Dean gives his time wholly to the executive and financial work of the school. The school is open to young men sixteen years of age or over who have had at least as much as the eighth grade work, though a high school or college training enables one to get more out of the course. Most of the students at present in the school have had high school training. But from the practical nature of the work eighth grade preparation enables one to get a great deal out of the course. During the year 1906-7 a young man with eighth grade preparation stood highest in his class. At present our students are enrolled from ten states and the Hawaian Islands.

After a year and a half of trial it is very evident that there is a demand and a place for a purely practical school of agriculture. The proof appears in the interest taken in the work by the students and in the appreciation shown by practical men of affairs. The low average yields of crops in this country and the onward march of the number of abandoned farms, point very emphatically to the need of men to run our farms, who are versed in the science and practice of agriculture.

A FEW IMPRESSIONS FROM A SUMMER IN EUROPE

By A. D. Taylor

Instructor in Landscape Art

MANY are the students who every summer cross the Atlantic, that they may enjoy, each in his own way, the phases of foreign life which most interest him. I dare say we all return with countless ideas and impressions of foreign life, which require time and reflection to systematize into such form as will prove valuable to us in our work.

ENTRANCE ROAD AT HADRIAN'S VILLA

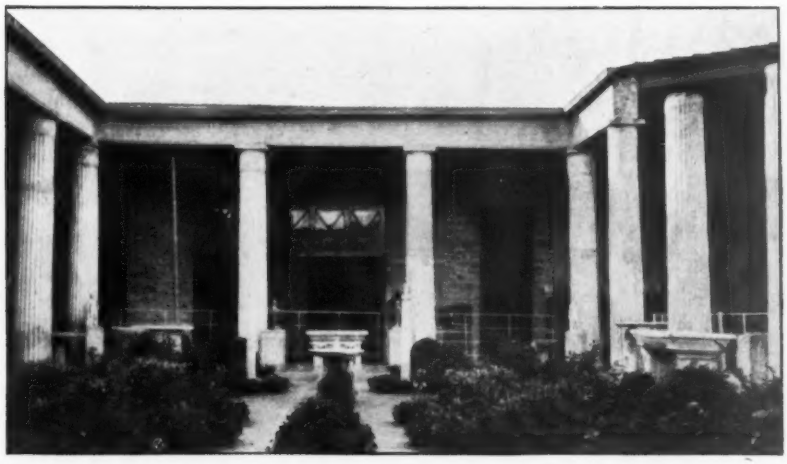
Showing a Brick Wall That Has Been Stripped of Its Marble Covering

It was during the latter part of a perfect summer afternoon that I stood upon the deck of an ocean liner and longingly watched the gilded dome of Boston's state-house fade away in the distance, while my mind was filled with the imaginative pictures of the scenes I was shortly to enjoy among the people of another land. As I stood straining my eyes that I might make indelible in my memory that last picture of my native city, the feeling slowly crept over me—that should fortune favor my safe return, then would I strain my eyes again to renew the picture which I felt that I would appreciate as never before.

This one thought proved to be but the forerunner of an hundred others which traced my brain as time passed by and more impressions were once and forever packed safely away within that storehouse of the human mind. Among others, the one great fact which appealed strongly to me was the attitude of the people towards, and their appreciation of, the works of art with which the continent is so richly supplied ; I shall confine my remarks almost wholly to the Villas of Italy.

After the traveler has wearied of visiting cathedrals, art galleries and museums—all of which so abound in such a wealth of masterpieces done by world famed sculptors and painters, he may turn to sunny Italy for a sojourn among the grand old villas and gardens for which that country is known. There he must be prepared to meet with many surprises and even disappointments. Italy is pictured as being a land of gardens and sunshine ; it is both. During the heat of midsummer the landscape presents a very deserted appearance which is made doubly interesting by the great areas of olive trees whose foliage blend so beautifully with the atmospheric conditions. Sunshine from a cloudless sky is everywhere ; but the villas and their gardens are quite hidden ; so much so that many a traveler has departed from this sunny land feeling that these beautiful old landmarks are the exception rather than the rule.

Wait and let us look ! Snugly situated in the hills bordering the Roman campagna, overlooking the city of Florence, skirting the shores of the blue Mediterranean and dotted among the Alps of Northern Italy and Switzerland one may find an almost endless

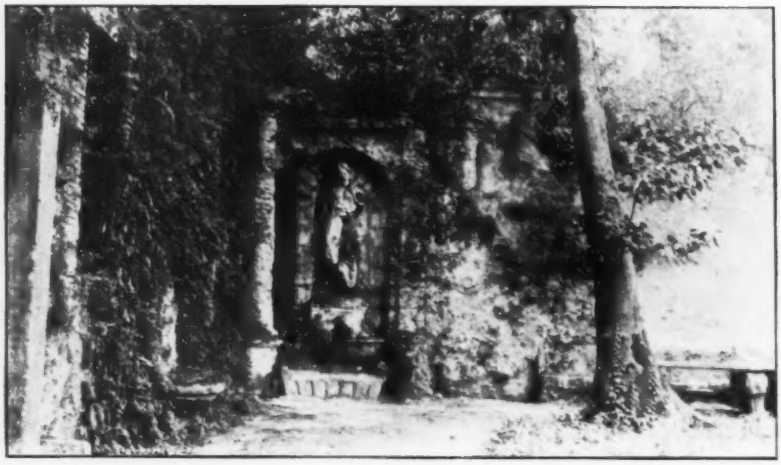


A POMPEIAN GARDEN WHICH HAS BEEN RESTORED AND PRESERVED VERY CAREFULLY

variety of interesting villas. Here, away from the heat and suffocating atmosphere of the city, the occupants enjoy nature as Italian artists have seen it.

When we have gained access to these beautiful old monuments to the emperors of the golden days of Rome, either by means of a "permisso" which we have tramped hours in order to find the proper place to obtain, or by means of a few "soldos" given as a tip to the custodian in charge, we meet once more with unexpected surprises. In some instances there stands before us the skeleton, as it were, of a villa which was the pride of a Hadrian or of a Tiberus in the days when Rome was the idol of the world. A masterpiece of any age, and yet of such what remains to-day after all of the emperors, kings and popes of Italy have satisfied their desires to plunder! Scarcely a thing, except such parts as no one would or could take away. And still even these are most valuable to one who can let his imagination play freely upon the features which are suggested by the ruins. Here stands a fine old Greek theatre, there an old Cypress alley winding around the hilltop and lined on its inner side by a brick retaining wall which was once covered with marble and contained fine statuary at intervals, and there we can see the ruins of what was once a marble canopy where the Emperor sat and enjoyed the games of the young Roman athletes. Off from the coast of Southern Italy and under the shadow of Vesuvius lies the small island of Capri. On the extreme end of this island there are the ruins of the historic Villa of Tiberus, a villa dating from the first century and one the study of whose ruins is invaluable to the students of art. The hand of fate has been upon it, until to-day the villa site consists of a number of vaulted rooms, which are now used for stables and quarters for laborers, and a small chapel together with the cell of an old Franciscan monk. Here, as at Hadrian's Villa, the devastation had gone so far before the government realized its obligations, that what remains today is but a faint intimation of that which really existed.

At Pompeii, a city whose gardens are the direct result of the Greco-Roman influence, one may see a very successful attempt at a restoration. Thanks to some lover of art, this ground has been controlled by the Italian government, and it is here that the traveller finds the best preserved statuary that is to be seen anywhere among the ancient gardens of Italy.



THE RUINS OF A FINE STATUE IN THE GARDENS OF THE VILLA D'ESTE

This much I have said for the ancient villas and gardens of Italy; now let us look to those gardens which were designed and constructed during the great period of the Italian Renaissance, or in the period when, after centuries of internal warfare and great depression, Italian art began once more to assume a concrete form. Once inside of these, the student comes face to face with much that stands for the high art of this Renaissance period; beautiful fountains, grottoes, pleached alleys and statuary are presented to the wondering eyes and receptive minds. All of these villas are owned by counts, princes, cardinals and people of similar rank and I might say that not a few are now owned by wealthy Americans either privately or as syndicates.

The one great point which I desire to bring before the mind of the reader is the fact which shows, in the majority of cases, how little appreciated by the owners are these magnificent possessions which, as a whole, are to Italy what Niagara and the Yellowstone are to us. Here during the hot months of the Italian summer these people enjoy, and apparently make little or no effort to preserve, what is and must be the envy of the world. The whole value of these old gardens with their elaborate systems of waterworks, and the beautiful alleys of cypress and oak lays in their preservation, and not in their restoration and reconstruction in years to come. Nature's laws must be obeyed, and the disintegrating processes of time will surely perform their work. This cannot but be felt by the lover of art as he visits these fine memorials to wealth and artistic awakening, such as exist in no other country, and such as can never exist except in a country of Italy's physical character; and it is not a little disappointing to look forward to the time when these too may possibly take their place among that ancient class which have been ruined by years of reckless preservation and plunder.

Already do many show the serious effects of time, while others owned by men with the interests of Italy's future at heart are finely preserved. The American, I think, cannot but feel this apparent lack of appreciation as shown by the unkept and listless appearance of a few of these fine old villas. In one of the most typical villas of this great period—the Villa d' Este, situated at Tivoli in the Sabine mountains and overlooking the great Campagna—the lover of Italian gardening may pass hours in looking with silent admiration upon the wonderful creations of the sixteenth cen-

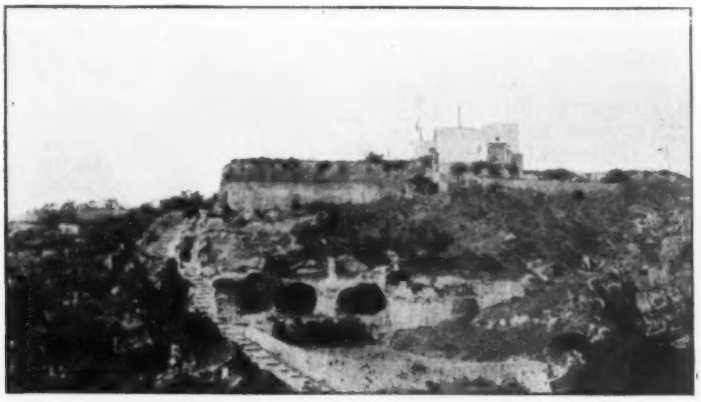
tury. At each turn of the path and from the base of each terrace some new and inviting feature is presented to the eye. After walking through every corner of the garden and seeing all, the weary observer sits by the side of an old ruined statue and there comes over him the feeling that here is a great landmark of a time when ornamental gardening was the pride and ambition of Italy, all left to practically care for itself as the deserted house of the snail,—now dead. It is but a question of time when we shall return and find but a trace of what marks another grave, where once stood the living illustration of that which is now slowly but with great certainty being obliterated.

While the duty of the American citizen lies first with the interests of his own country, I can readily appreciate the steps which some few citizens have taken in order to preserve for students of future generations some of these old gardens which have fallen from the hands of titled families, and which would soon lose their identity were they not cared for and preserved.

A ROMAN GARDEN

By Florence Wilkinson

"Down yonder velvet alley
Floats Daphne like a feather,
A finger bidding silence,
The dark and she together.
Look, where the secret fount is misting,
Apollo, thou shalt have thy trysting;
For where a ruined sphinx lay smiling
The wood-girl waits thee, white, beguiling.
All night above that garden the rose flushed by moon will sail,
Making the darkness deeper where hides the nightingale."



THE RUINS OF THE VILLA TIBERUS

THE SHORT COURSE ASPECT

THE Short Course student has become a large and important factor in the College of Agriculture, and in planning developments and considering changes in the College, he is taken account of to very nearly as great a degree as are the other students. This is shown to be a just and necessary state of things by several facts. The Short Course man is, as it were, "finishing off" in many cases before starting out to enter into agriculture and make a success in it. He comes from the farm, from the school, the university or the city—with but a few weeks for work ahead of him—and he must study intensively in that time if he is to

receive real benefit and enable the College to fulfill its task. For these and many other reasons the Short Course men are an important unit, and as such it seems fitting that their sentiments,—the "Short Course Spirit" be presented in the *Countryman* as well as the ideas and opinions of other students. With this in view the impressions, more or less personal, were solicited from various members of the different classes in the Short Courses, and the following phases of the "spirit of the Short Course" were prepared.

WHY I CAME TO CORNELL

By A. G. Steer, Dairy '08

When first asked to write for the *Countryman* the reasons "Why I came to Cornell" it seemed a very easy matter, for the decision was so clear and decided. But when it came to writing it down, my experience was very much as it always is on examination day, when a fellow knows the answer to every question perfectly and yet his book comes back marked about 75 per cent. My reasons as a salesman of dairy supplies are no doubt different from those of the average man who comes from a butter or cheese factory.

The dairyman is beginning to recognize competition, and near our larger cities this is forcing him to utilize every asset and to care for his patrons to the best possible advantage. The ways of his father will not do, when his competitor, by using scientific methods is able to command a higher price for his finished product, and therefore to pay more for his milk.

There is a constant demand on the part of the butter and cheese maker, as well as on the part of the factory owner, for knowledge of better methods and improved machinery. The successful salesman must keep himself fully abreast of the times, not only in order to explain the latest machinery, but many times he is consulted regarding proposed changes. If he can assist his customer to more profitable methods, he will get all of that customer's business, which is what he is after.

If the creameryman has never used a commercial starter then why should he buy a pasteurizer, or a starter-can or a ripening vat, why should a market milk man buy a steam boiler, or bottle his milk, why should a cheese maker buy a separator for his whey? These and a thousand other questions the salesman must not only answer, but often ask as well. You must sell goods and build up your trade constantly for the Boss sits in the home office and once a month coldly compares your profits with your expense account. If you did not sell the goods that your customer needed then you would soon need to look for new territory and some one else would be lugging your grip.

It had long been my desire to take a course in dairying but it never assumed definite shape until one day last summer when a better informed competitor secured a $5,000.00 order over my head and for inferior goods at that. That settled it.

Then came the difficult part, which college? As it meant, not only the expense of the course, but the losing of a good salary for three months, it was a matter to be carefully considered.

It has always been my policy to work as little as possible to secure desired results—some men call that laziness—or to put it in a more popular form, to get as much as possible for my money.

The circulars of several of the best dairy schools were carefully compared; then the work of the men over my territory from these schools, also the attitude of my trade toward the different ones. All this resulted almost unanimously in proof that the best value to me would be three months spent at Cornell.

THE WINTER COURSE AS THE FARMER SEES IT

By W. A. Lippincott

President of the Winter Poultry Class

The greatest drawback to the win-

ter course from the standpoint of this brief article, is the fact that the majority of farmers do not "see it." Most of them perhaps know there is such a course. They have seen the name "Winter Course" in the paper. But as for having a really intelligent understanding of the opportunities thrown open by the various short courses,—the average farmer is yet to be educated up to it. By educating him we do not mean putting before him in print alone, the excellencies of the courses, great and numerous as they may be. The farmer deals constantly with concrete objects. His reasoning is from concrete to concrete. If he is to "see" the Winter Course it must be shown to him in some concrete form.

Our scope is therefore limited to those farmers who have gained a true idea of what the Winter Course offers. That these few form a progressive and intelligent minority we are glad to admit. That, for this progressive minority, "The Winter Course" spells an opportunity not found elsewhere, is shown by the way farmers and their sons are seizing it. But is it not also true that it is the farmer who is not so progressive that we want to make more progressive?—that it is the man who has his attention and his intelligence narrowed upon the production of one or two kinds of raw material, year after year—that we are anxious to raise to that higher plane of Agriculture, where he will offer a highly finished product as the result of his thought and effort?

The Winter Course as the farmer sees it before he enters, and after he has completed his course, differs somewhat. The drawing cards of the short course are, in most cases, two. First, it offers an opportunity to become acquainted with new methods. Second, a certain prestige is given to one who has completed the course, enabling him to secure a position where he may obtain experience along the line of the newly suggested methods. The man who thinks generally agrees with the "Self-Made Merchant" that "new methods are better than old ones, even if they are only just as good, which" he adds "is not so Irish as it sounds." The new is better because a man is very liable to throw himself into it with a greater abandonment and enthusiasm. This is nowhere more true than on the farm.

What the farmer sees after completing the course that he did not see before is a new light shining on the old farm, transfiguring it,—a new occupation awaiting him though called by the old name,—a new life stretching on before. For drudgery he may now exchange thoughtfulness, for isolation and loneliness, a common sympathy and interest with his fellowmen, for the wearing struggle to gain a livelihood, the privilege of living a life, with the result that he will probably gain a better livelihood.

HOW A COLLEGE GRADUATE REGARDS THE WINTER COURSE

By A. G. Fletcher, Harvard, '07

President of the Winter Dairy Club

The Winter Course forms one of the most important factors of the modern education. It enables men, both young and old, to fit themselves in the shortest possible time with the least expense and under the best of guidance for a life in which, to say the least, they are deeply interested. The Courses offer one of the best opportunities for the student to get a general view of the whole field of agriculture in a short time. The men can, if they choose, specialize in any one of five different but related subjects. Apparatus, laboratories, specimens and libraries are at the service of men taking the Winter Courses as well as those taking the longer courses. In fact these short courses are the outgrowth of the longer ones. As an economic problem, it would not have been advisable to build all these beautiful structures, equip them with apparatus and hire competent men to instruct, if they were to be useful only three months of each year. They were primarily intended to be used throughout the college year and the

Winter Course men get the results of this vast investment on the same basis as do the men taking longer courses. The men taking the Winter Courses also have the privilege of being candidates for positions that are made known to the Agricultural Department. In a word the Winter Courses offer to the students the same opportunities to fit themselves for their chosen work as do the longer courses.

A disadvantage of the short course is that the men do not get as much routine work and drill as the long course men. But a great advantage is gained in the amount of time required. This latter is twofold in effect. While the majority of men are studying they are not earning money and at the same time they are spending a good deal. This expenditure without income is a serious problem to most young men, but Winter Courses on account of their short term make the solution of this problem less difficult.

The value of one of these courses is "measured largely in new ideals, fresh enthusiasm and a broader outlook." This applies just as well to a college man as to the man from the farm. To the former everything is new; ideals, enthusiasm and outlook. He perhaps has never been closely connected with farms or country life. He is somewhat at a disadvantage, in not being familiar with the ordinary processes of his chosen work. But he has had an advantage in that college has trained his mind to grasp quickly the facts and often times the courses of common phenomena. Books, lectures and the theoretical side of life are old friends.

With the farm lad the case is different. He is sort of "getting his second wind." He has always been connected with farm life and is looking for a newer and better method of carrying on the work he has been doing more or less mechanically. He is thoroughly familiar with the practical side of farm life, but has very little of the theoretical.

These courses come at the best possible time. During the winter work is "slack" on the farm, and men can most easily leave it and give up their time to studying. And again, men feel more like working hard and like being "in doors" than they would at another period of the year. Nature has not so many attractions to divert the mind at this time. These Winter Courses might well be called a "catch crop," coming as they do at a period when a man's mind is least concerned with other things. They are one of the most profitable "crops" I know of. The results of the brightest thinkers of all times are gathered together and are expounded as fully as possible, in the short period of three months.

MAKING GOOD ON THE FARM—IV.

By Harry Mason Knox

St. Lawrence County, New York.

IT was an advertisement in a local paper of the "College of Agriculture Farmers' Reading Courses" that started me off to Cornell. I was then a student of practical farming, and attended the St. Lawrence University here in our town taking the scientific course. It was more knowledge that I sought about the vocation that I craved, and only in a stimulative way did the Cornell Reading Courses give it, so it was necessary to go to the fountain head.

When I came home from Cornell it was to continue my life of a farmer, applying those principles that I had learned in my practical work to a business advantage. Of course it is up to every graduate to "make good," not only as a duty to his college; but to his fraternity. It is stimulative spirit that helps one to "make good," and there is enough of it here among the prosperous and enlightened farmers of St. Lawrence County.

My aim was to be one of the leading

THE LARGE DAIRY BARN

Showing the Outlet of the Ventilating System, and the Entrance to the Silo, in the Roof

farmers of the locality, and have a farm practicing methods that would be looked up to and copied by my neighbors. It was necessary for me to do as they had done, that is, in the main to follow their general methods, and at the same time to put into operation some of the principles that I had learned at Cornell, such as saving up moisture by frequent tillage and the like, to the advantage of the crop. I have done this, and have told of these things through our county papers (at one time I edited a farmers' column in one of them) and in this way have helped to "make good."

Now about our farm and our present methods. It is one of the good farms amid the foot hills of the Adirondacks in one of the best natural dairy regions of the world. It has been in our possession for some sixty years, but a good part of the time a large share of it has been rented. My aim is to make it a great dairy farm. I named it Success Stock Farm for an inspiration, and an ideal to aspire to. It is not a success at present, but we are getting things shaped so that in the near future we may say in a measure it bears out its name. The farm lacks in having the best fertile stock land; but this is but a difficulty that I feel I can clear away.

To carry out our aim it was necessary to stock the farm with thoroughbred stock. I was a student of dairying at Cornell, and those capacious Holstein-Friesians headed by Earl Korndyke DeKol, owned by the College appealed to me. So we began with the purchase of three thoroughbred, but unregistered Holstein-Friesians. Then came the registered ones, and today every animal in our herd is registered. At the head of the herd stands Korndyke of the Adirondacks. He is a son of one of Belle Korndykes' sons, and Belle Korndyke is probably the greatest dairy animal alive today as shown through her progeny. Earl Korndyke DeKol, mentioned before, was one of her sons. Our herd now numbers thirty, mostly young cows to be put in the official records of the Holstein-Friesian Association. Two have official records better than twenty pounds for seven consecutive days. Our herd has for a herd name "Adirondac," and the trade mark of the farm is SUCCESS STOCK FARM.

To house our thoroughbred stock, and carry out our plans it was necessary to build a modern, practical, up-

to date dairy barn, equipped for intensive dairying. It was erected in the years of 1904-1905 and is ninety-four by forty feet. The basement is devoted entirely to the herd of Holstein-Friesians and has a solid concrete floor properly graded for thorough flushing, and drainage. The cattle stand in one continuous row the entire length of the barn facing the feeding alley, box stalls, and silo. The light enters through spacious windows from all sides of the barn. The box stalls are partitioned off with wire netting so as not to exclude any light. The stable and ventilator chute is properly insulated and ceiled with choice pine that grew on the farm. As a result there is a perfect working of the King System of ventilation. All window and door jams are beveled to prevent the collection of dirt. The silo is centrally located, and opens up into the feed alley. It will hold 150 tons of silage, and has an arrangement so that it can be divided into a winter and a summer silo. The root cellar is at one end of the feed alley. The water system is complete, being supplied by a 30 barrel reservoir, piped from there by galvanized pipes to all parts of the barn. The cattle are tied by flexible chain hung stanchions attached to movable Ds between a top and bottom gas pipe rail. This method of fastening obviates the collection of dirt and dust to be found about most stanchions.

In addition to the barn we are building a combination engine, ice, laundry, refrigator, and dairy house, with the piggery closely connected. These buildings are separated from the barn proper by a short alley. When they are completed we feel that we will have an ideal set of buildings to carry out our purposes. In building we have always kept in mind practical methods, convenience in doing our work, light and sanitation, which mean health of the herd, and pure products. To appreciate these essential points you should see our buildings, and realize how they serve our purposes in view.

Our pure products are:

VITALITY MILK.—This is a product of well bred Holstein-Friesian cows. They are clipped and groomed. We milk them with a power milking machine when giving a good flow of milk. At other times with our "ideal sanitary milk pail," a pail that we studied out and had manufactured here in Canton. Under these conditions we produce a clean pure milk of life giving qualities.

SUNSHINE CREAM.—This is a by-product of "vitality milk" gotten by separation with a Simplex Separator. We put it up in quarts, pints, and half-pints in two grades a 40 per cent and a 20 per cent, selling it through a local grocery store.

THE GOLDEN BUTTER.—A by-product of "Sunshine Cream" put up in jars and prints at our customers' orders.

THE PURELATED BUTTER MILK.—A by-product of the "Golden Butter."

DUTCHLAND COTTAGE CHEESE.—A by-product of the "Sunshine Cream" and the vitality skim milk.

To carry out our "ideals" with regard to the dairy farm, we decided that we must have a thoroughbred herd of swine. Swine and dairy cows go hand in hand, and they are profit givers. We had had Berkshire swine up to the time we began going to our local condensory, and we wanted a herd of swine that had in the main the same characteristics of the Berkshires but which were white and prolific. The small Yorkshires seemed to be the kind that would carry out our ideals. So we bought of the noted breeder A. H. Cooley, two sows and a boar as a foundation herd. They were from the State Fair prize winning stock and extra good individuals. The herd is headed by Adirondac Chief. He is a strong thrifty fellow, and we are confident that his get will make prize winners as well as our choice by-products in the form of "Little Pig Prize Packages."

Our farm is to be an intense dairy farm. The acres will be made to produce all they possibly can nothing being sold off the farm except in the form of a by-product such as the

THE DAIRY ROOM

"sunshine cream" or "golden butter." We are at present using, in the main, clover in our seeding, for it makes a great dairy food. Not only is it a healthful food ; but it is a food whose energy can be transformed easily into milk and a plant that is at all times during the period of growth and decay enriching the soil. We are trying alfalfa, and expect to make a success in growing it though we have had a series of failures. We are looking to the time when our cows will be stabled the whole year, and at the most let out only at night in small paddocks adjacent to the barn. We are to use the summer silo, and forage feeds keeping our milking machines at their capacity during the lactation period. Our swine we pasture in small plots of oats, peas, clover, rape, etc., adjacent to the piggery.

The advertisement of our product has been local up to the present time. We entered into a new undertaking last April in the form of a publication known as the "Success Stock Farm Journal and Holstein-Friesian Advocate." It has had good support, and we shall continue it. We advertise in the form of circulars, in grange programs, and shall soon branch out to the agricultural journals. This selling of our products is one of the most important factors of our business, and it will be carried on on a practical basis.

In brief, ours is not fancy farming, in any sense of the word but rather doing things a little differently from our neighbors. Competition arises thereby, and we are all spurred on in this active American life to always try and do a little better, to "make good" in other words.

SOME BIOLOGICAL ASPECTS OF AGRICULTURE

IV. CONCLUSION

By Vaughan McCaughey '08

AGRICULTURE, for long ages, has been considered, both theoretically and practically, largely in terms of its *economic* efficiency and significance. This old idea, however, is a milestone which has now been passed. There is a growing appreciation among all classes of people that the things of the farm, and the labor of the farmer, have many other interesting aspects,—social, aesthetic,

humanitarian,—as well as this dominant economic phase,—and that prominent among these other viewpoints is the biological or life aspect.

Weeds are an excellent example of an agricultural subject which may be approached on this biological basis. We commonly think of weeds just as the people of the past thought of agriculture, largely from the enconomic standpoint. Weeds grow where we do not wish them; they disfigure our lawns; untidy our sidewalks and gardens; crowd out our crops; rob the soil and cultivated plants of plant food and moisture; harbor injurious insects and plant diseases; grain mixed with weed seed is greatly depreciated in value; the abundant pol len of some kinds greatly augments "hay fever;" the fruits of many cling tenaciously to our clothing; and it is thus natural that we should think of weeds largely in terms of ourselves and our interests.

But biologically there is no such a thing as a "weed." It is an artifical word and represents not a natural object but man's development. There were no weeds before man became civilized. Indeed, in some respects, weeds are very good indicators of the civilization and the food producing ability of a people. The Indians subsisted on many plants which the farmer of to-day scorns as "weeds." We have better food plants.

Looked at from its own standpoint, a "weed" is simply a plant fitted wonderfully well to fight the Battle for Life. Ages of struggle and elimination have given to the weed three significant powers. (1) Tenacity to life, non-killable-ness. (2) Enormous productive energy. (3) Great versatility in adapting itself to widely varying and often adverse conditions. The weeds are the "intellectual giants" of the plant world. Among them we find some of the most efficient devices for ensuring pollination and seed distribution, and the most clever adaptations for all of the necessary life processes. The weeds represent the brawn and sinews of the plant world. They succeed where all others fail. It is Anglo-Saxon, agressive, indomitable. No more fitting symbol for the coat-of-arms of the White Man can be found than—a dandelion blossom. Think for a moment 'ere you pluck the silver seed-globe of the dandelion—It has succeeded in its life work—Have you?

"Weed" is like "dirt"—a relative term, standing for an opinion, and not for an intrinsic quality. From the

human standpoint, we may well think of "weeds" as plants with enormous latent possibilities that have not yet been adopted by man for his benefit. "Purslane" or "pusley" is one of the most common and most persistent of weeds, and an eyesore in any flower bed, yet the improved purslane or "portulaca" the rose-moss which ranges in color from pure white to deep purple, rejoices the heart of any flower lover. The ox-eye daisy and black-eyed Susan are veritable pests in many an Eastern meadow, yet the cultivated "Susan," or "rudbeckie," adorns, in large banks, our gardens. The successful garden has often thus transformed "weeds" into fine looking well paying plants for the garden, as Mr. Burbank won money and fame with the Shasta daisy. Thus, much has been done along the line of ornamental plants, and who can predict the results of selection and breeding for other purposes. Looked at from its broader aspects, the larger part of the work of the farmer down through the centuries has been the gradual transmutation of weeds into useful plants. To primitive man most plants were weeds—useless. Only those plants that had edible parts,—at first those that bore fruit or nuts; later, those that possessed cookable portions,—were useful to him. Fiber plants, etc., for a long time were weeds, and not until man domesticated certain animals did the "forage crop" appeal to him. The history of the sugar beet strikingly illustrates the grand march of the plant world from the file of the useless to the rank of the useful. Man is just now in the infancy of knowing the "usableness of things. "Heaven will be weedless not by extermination, but because each plant will have its definite use and function. (Rev. 22-2). The weed, therefore, deserves attention, because of its interestingness; study, because of its marvelous possibilities; and respect, becausedof the success that it has already achieved.

This white daisy in my window epitomizes the whole history of man. Ages ago it began—selfishly—but has now reached the plane where, to use the words of One, it "ministereth unto others."

The Cornell Countryman

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G. H. MILLER, - Assistant Managers

FEBRUARY, 1908

"THE writer has been very much interested during the past few weeks in carefully observing the developments in the formation of a proposed connection between the main campus and the College of Agriculture buildings. In the carrying out of this scheme it has evidently been the intention of someone to design a diagonal path directly across the beautiful bit of turf lying in front of the Veterinary College. This has seemed to many quite unnecessary, and far from indicative of a spirit desiring to enhance or preserve one of the few beautiful bits of lawn which the University now possesses.

We are led to believe that such a path must eventually be a natural result of constant usage. We feel that under the existing conditions there can be no other solution of the problem. A student coming from the College of Agriculture will very naturally follow the solid cinder path; but he soon comes to the end of it and where does he find himself? In the middle of the walk, one-third of the distance from the Veterinary College to the street. He desires to reach the sidewalk at the southeast corner of the lawn, and unconsciously he does what all of us would do under the circumstances,— he goes directly across the lawn.

The writer seriously believes and expresses his sentiments only after having carefully studied the situation, that were the cinder path to be terminated at the southwest corner of the building by suitable plantings, the traffic, thus dropped, would follow the natural course and keep on the walk already provided. For a short time a neat sign could be displayed at the southeast corner of the lawn asking students not to cross that way. Human nature will forever tend to follow in the beaten paths, and though we can in no way criticise those who have made constant use of this new path, yet we congratulate those who have, day after day, kept to the stone walk in spite of the fact that they have been directed across the lawn by an ill designed scheme. We hope that, in the near future, the proper authorities may carefully consider the condition of affairs and take steps to remedy the evil which all so much regret to see growing with each day of usage."

The *Countryman* was extremely glad to receive the above communication, primarily because it deals with a matter that is close to the College, but also because it is gratifying to receive this kind of assistance in trying to get expression of ideas and sentiments from those interested in agriculture and the College. Inasmuch as the path system involved was designed mainly for the use of agricultural students, it is fitting that they should determine the direction in which developments will proceed. As students

of Nature and of outdoor life, we can justly be expected to appreciate good taste in landscape design, and to endeavor to maintain the beauty that remains about the University. This is certainly not being done in regard to the Veterinary lawn, although as the writer remarks, it is not surprising that, under present conditions, a line of traffic should have started, as it has, over the grass. The whole plan, however, can be remedied without permanent injury to the lawn if it is taken up before the warmer weather brings thaws and the removal of the protecting snow. The improvement suggested above, is a good one and the time that would be lost in keeping on the flagging would be insignificant. Without the right spirit, however, it seems probable that no array of signs would turn the current of pedestrians, but should merely act for a time as a reminder. It remains, therefore with the students who are to use the path and enjoy the lawn to express their opinion and desires, and by a further concerted expression of their sentiment to largely determine the nature of future developments.

Professor Duggar

THE acquisition of such a man as Professor B. M. Duggar for the position of Professor of Plant Physiology is another cause for congratulating the College. Not only does his coming mark the institution of this department, upon a level with others of similar nature, but it brings into our faculty a scientist, investigator and instructor who has already shown his ability and worth in various parts of the country. Professor Duggar is, however, no stranger in the College, coming as both a former student and a former member of the faculty of the Botany Department. So we, therefore, re-welcome him most heartily, with a genuine pleasure and appreciation, and the expression of the sincere good will and good wishes of the students.

A Notable Victory

IT is a considerable time since the Agricultural Cross Country team carried off the honors in the Intercollegiate race, and brought to the College the Ehrich Trophy—the first prize of its kind to mark the increasing prowess of the College of Agriculture in athletics. It seems none the less fitting, however, that a word of congratulation and appreciation be expressed for the members of that team, even at this late date. Their work is far from being forgotten, and with the cup in view in some appropriate place about the building, the significance of the victory will be still more clearly kept before our minds. Besides having run a good race and been victorious, the team set another standard for later teams and those in other sports to come up to. The spirit of clean athletics seems to be a desire to contest fairly and closely, to develop continuously, and to win as often as can be, with fair and square methods and through sheer superiority. Let this, then, be the impetus behind the teams, crews and all organizations of our College.

Farmers' Week

ON the 17th of February will begin a week that will be, or should be another significant and important step in the growth of the College of Agriculture. The relations between the farmers and the

college have been continually growing closer and more advantageous to both parties, and in a way Farmers' Week will mark the culmination of the increase of these relations. Of perhaps chief interest to the students themselves will be the various exhibits, shows and meetings that will be conducted by different departments during the Week—for with these will they find themselves most directly concerned. Most important among these activities will be the annual Poultry Show which promises more than ever before. This will involve considerable work and time on the part of the students interested in Poultry Husbandry, even though its management is cared for by the Poultry Association. In connection with the show will be the Poultry Institute which will offer unusual opportunities along instructive and interesting lines. The exhibits planned by the other departments will also require the coöperation of students, and it is needless to say that every effort should be made to develop this coöperation to its highest extent.

The Alumnus' Part

It will be for the students to prepare and carry out a series of programs that will be instructive, enjoyable and of benefit to all concerned, but the alumni are not without an obligation, the performance of which can mean a great deal to the success of the week. For it is their part to return to Ithaca—as many as can be—to make the reunion of classes enthusiastic and of great proportions, and in every possible way to show an increasing interest and appreciation in the work and activities of the College. This week comes at the time when, if ever, the farm can safely be left for a few days, and with the transportation rates that are being arranged for, unusual inducements and facilities are given for renewing and strengthening former connections with the University.

The Banquet

A foreword for the Eighth Annual Banquet should not be forgotten inasmuch as this function has become one of the most important of the year. The committee for this banquet has before it, however, a more momentous and serious question than has confronted any previous committee. A year ago the capacity of the Armory was comfortably taxed to accommodate the five hundred and two participants. This year, while the exact date has not been decided upon, it is natural to suppose that if at any time during or near Farmers' Week. the numbers even will be increased. So that it devolves upon the committee to either place the banquet at a time when the probable number of guests could be welcomed with the space heretofore available, or to formulate some plan whereby the event could be made proportionate in size to the numbers which we hope to greet during Farmers' Week. The latter would, if possible, be by far the more desirable plan, but only time will show whether or not it is practicable.

Retrospective and Otherwise

Once upon a time it seemed necessary to implore and almost force Short Course students to enter into debates, clubs and the various activities of a university community. Their college lives became monotonous, unenjoyable; and without the stimulus of active interest, their

stay here lost many of its latent possibilities. But all this is of the past. The numbers of the short course students have increased, their work has become more systematized and greater possibilities for study can now be offered them. But more to be approved of, and exulted over, than this, is the awakening of the men to the appreciation of the broad life of a university, the "social education" and all that is not purely didactic. And this is no mere turning over in the midst of slumbers, but a distinct and decisive awakening. This new spirit is showing itself in many forms. The Winter Poultry, Dairy and General Agriculture classes organized soon after their arrival, and clubs which are brimming over with enthusiasm and results soon developed. Already a glee club has been formed from the whole list of students, and, besides, a double-quartette in the Dairy class. These energetic dairymen have not even stopped here but are organizing a basket-ball team. And so it goes throughout the classes, each new activity adding far more than appears on the surface. It is good, also, to see the short course men come out to the Assemblies, the Association meetings and supplementary lectures; and thus in many ways they are both justifying the attempts of the student body to make the life of the college full of interest, enjoyment and improvement, and are themselves gaining that which will prove of inestimable benefit in future days—the inspiration of contact with others.

Rewards of Ambition

THE gift from the Briarcliff School of Agriculture, which is mentioned on another page, is one for which we can well be grateful. Like the Roberts Scholarship Fund, it provides for a most worthy and philanthropic action and having thus started such a fund, it has gone a long way towards its increase in the future. The student who, in the face of financial difficulties, makes his way to college and manages to both support himself in the present and educate himself for the future, shows the kind of spirit that does things, that deserves assistance and which can conscienciously and fairly accept that help. Such a man is a safe investment and he can feel confidence in himself to the extent that such aids as scholarships and the above fund will appear not as obligations, but legitimate rewards and the recognition of the right kind of ambition.

GENERAL AGRICULTURAL NEWS

The denudation of the American forest has long been a source of anxiety to those interested to any extent in agriculture or forestry, and so far attempts to prevent the great waste that is annually going on have not been successful on a large scale. Believing that more than mere preventative measures are now necessary, the Atchison, Topeka and Santa Fe Railroad company has started an industry, which, with the growing scarcity of timber is sure to become widespread. This is nothing more or less than what we may call timber culture. The company has purchased an estate of 10,000 acres in California, with the intention of planting 7,000 acres of it to Eucalyptus trees which they will grow for cross ties, and devoting the remaining 3,000 acres to experiments in the growing of timber. The Pennsylvania railroad has also purchased a large tract, and will grow its own timber for

cross ties. The fact that these two companies have gone into the growing of forest trees as a business proposition shows that radical reforms are imperative in the present methods. Their action will doubtless serve the purpose of bringing this home to the people in a way that scientific demonstrations alone could not do. We may expect in the near future to see other large companies engaging in this enterprise, and timber culture will doubtless become a prominent industry.

* * *

As the result of the recent experiments, the Storrs (Conn.) station has published a bulletin describing a substitute for the lime-sulphur wash as a remedy for the San Jose scale. This wash is a soluble oil which may be prepared entirely upon the farm. It is composed of two parts, the emulsifier, which may be made up in large quantities and kept indefinitely, and the complete oil, which is composed of the emulsifier together with other materials. The formulae are as follows :

1. THE EMULSIFIER.

Carbolic acid (crude liquid 100%) ---------- 2 qts.
Fish oil (pure Menhaden or whale oil) ---------- 2½ qts.
Caustic potash (granulated) 1 lb.

Heat the acid, oil, and caustic potash to 300° F, then remove from the fire, and immediately add

Kerosene ---------- 3½ qts.
Water ---------- 5½ qts.

2. THE COMPLETE SOLUBLE OIL.

Emulsifier ---------- 8 parts
Crude petroleum ---- 18 parts
Rosin oil ---------- 4 parts
Water ---------- 1 part

This last can be made up at any time without heat. The materials should be added seperately, and in the order named. For spraying there should be added to 1 gallon of the oil 15 gallons of water. This brings the cost of the mixture to about 1 cent per gallon as compared with 1½ cent for the lime-sulphur. In tests it has proven a very effective spray for the scale.

The seventh annual meeting of the New York State Fruit Growers' Association was held in Empire Hall, Syracuse, January 8th and 9th, 1908. The programme included among other addresses the following : "Address of Welcome," Hon. Allan C. Forbes, Mayor of Syracuse, "The President's Address," J. R. Cornell, "Glimpses of Peach Growing in Various Parts of the United States," Professor John Craig, and "A Successful Organization and its Lessons for Fruit Growers," Professor S. A. Beach. The programme contained a list of seventy questions which had been proposed by members for discussion. These aroused much interest, and were instrumental in bringing out many opinions of and experiences in fruit growing matters. Several prizes were awarded for exhibits of fruit.

* * *

The 1908 meeting of the New York State Fruit Growers Association for the Hudson River Valley will be held at Poughkeepsie, Feb. 13th and 14th. The object of this Association, as stated in its announcement, "shall be to encourage the coöperation of the fruit growers of the State of New York for the protection and advancement of their common interests."

* * *

The fifty-third annual meeting of the Western New York Horticultural Society will be held in the Eureka Club Building, Rochester, N. Y., January 22nd and 23rd. One of the greatest attractions of the meeting will be the mid-winter exhibition of choice fruits, which will occupy 1000 square feet of of floor space, one-half to two-thirds of which will be used by the State Experiment Station. The programme will include addresses by Dr. Jordan, Professor Hedrick, Dr. Van Slyke, and Professor Craig, Professor Judson and Mr. Burritt of Cornell. A large number of questions are proposed for discussion, and are arranged under the headings of the different fruits, (apples, pears, etc.) insects pests and miscellaneous.

The final estimate of the Crop Reporting Board of the Bureau of Statistics of the Department of Agriculture (in which certain necessary corrections have been made in the earlier preliminary estimates) based on the reports of the correspondents and agents of the Bureau, supplemented by information derived from other sources, indicate the acreage, production, and value, in 1907, of the farm crops of the United States named in the following table to have been as stated therein:

Crops	Acreage	Production	Value Per Bu.	Farm value December 1, 1907
	Acres	Bushels	Cents	
Corn	99,931,000	2,592,320,000	51.7	1,340,446,000
Winter Wheat	28,132,000	409,442,000	88.2	361,217,000
Spring Wheat	17,079,000	224,645,000	86.0	193,220,000
Oats	31,837,000	754,443,000	44.3	334,568,000
Barley	6,448,000	153,317,000	66.6	102,058,000
Rye	1,926,000	31,566,000	73.1	23,068,000
Buckwheat	800,000	14,290,000	69.8	9,975,000
Flaxseed	2,865,000	25,851,000	95.6	24,713,000
Potatoes	3,124,000	297,942,000	61.7	183,880,000
Hay	44,028,000	*63,677,000	11.68*	743,507,000
Tobacco	821,000	†698,126,000	†10 9°	76,234,000

* Tons. † Pounds. ° Prices of cigar types nominal.

The average weight per bushel is shown by reports received by the Bureau to be 56.9 pounds for spring wheat, 58.9 pounds for winter wheat, and 29.4 pounds for oats.

CAMPUS NOTES

Dr. B. M. Duggar, who enters upon the work in Plant Physiology as Professor, at the beginning of the second term, has been for six years Professor of Botany in the University of Missouri. During this period he has devoted much time to the organization and general development of the work. The progress achieved is shown not only by the fact that the enrollment in general courses has increased from about thirty-five in 1902-3, to nearly two hundred and fifty in 1907-8, but especially by increased interest in graduate work and research as well as by material equipment and the recognition and appreciation of the work as a basis for the more technical courses in plant industry.

B. M. DUGGAR

Dr. Duggar was born in Gallian, Ala., in 1872. After attending the University of Alabama, he was graduated from the Mississippi A. and M. College in 1891, studied botany with Professor G F. Atkinson at the Alabama Polytechnic Institute in '92-'93, receiving the M. S. degree, and subsequently attended, for two years, the

Graduate School of Harvard University receiving his A. B. in '94 and his A. M. in '95. After a year as Assistant at the Illinois State Laboratory of Natural History he came to Cornell and was successively Assistant, Instructor and Assistant Professor in Botany with special reference to plant physiology ; and at the same time was Plant Pathologist in the Experiment Station. Dr. Duggar received the degree of Ph. D. in '98 and then studied at the Universities of Leipzig, Halle, Munich and Montpiellier and at the Naples Biological Station in 1899 and 1900, and in 1905-6. He was plant physiologist in the Bureau of Plant Industry in 1901-2.

At the International Congress of Arts and Sciences at St. Louis in 1904, he was the American speaker in the section of Plant Physiology. His chief research work, as well as that of his students, has more recently been directed towards the nutrition of plants, and the relation of plants to toxic solutions. He has also studied the physiological principles of mushroom growing and has established new methods in this field making possible notable advances in the practical side of the work.

* * *

The College of Agriculture has received from the Trustees of the Briarcliff School of Practical Agriculture and Horticulture, a gift of $298, being the funds remaining after the closing of the affairs of that school. This gift has been accepted by the Trustees of the University as the nucleus of an Agricultural Student Loan Fund, the interest to be loaned to aid students, who are working their way through the College of Agriculture.

* * *

Professors Lyon, Stocking, Riley, and Messrs. Hammar, Bradley and Reddick were among those from this institution who attended the American Association for Advancement of Science at Chicago recently.

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On the evening of December 17, the Agricultural Association meeting was opened by an explanation of the Agricultural Library and its workings, by Mr. Lamoreux, the librarian. Rev. W. L. Anderson, of the Amherst Agricultural College then spoke upon "New Rural Life." After this the Ehrich Cup, which had recently been won was presented to the college. This cup, the trophy of the Intercollege Cross Country Race will be held by the college for a year, and the question is before the college as to where, in the buildings it shall be displayed. Suggestions and ideas upon this subject will be gladly received by the officers of the Association.

* * *

On the first of February, Professor Craig and his family will leave for the East to be gone until next September. He expects to spend the winter in North Africa and Egypt, and the summer among the agricultural schools and experiment stations of Germany and France.

* * *

The New York State Fruit Growers' meeting at Syracuse, Jan. 8th and 9th was attended by Professors Craig, Judson, Wilson and Mr. Wallace, '08. Professor Craig delivered an illustrated address on the peach growing industry in the United States and Professor Wilson gave his experiences in treating the black rot of grapes. We anticipate the Western New York meeting at this place next year.

* * *

Special lecturers on horticultural subjects this winter are Mr. O. S. Bishop, Pontiac, Mich., on plant breeding ; W. C. Barry, of Rochester, on amateur fruit growing ; George T. Powell, Ghent, N. Y., on dwarf apples and J. H. Hale, South Glastonbury, on peach growing in New England.

* * *

At the meeting of the Agricultural Association on January 7, the five members of the Agricultural Cross Country Team to finish first in the recent Intercollege race were presented with cups which the College had

donated. These men and the places which they took in the race were : H. P. Berna, '11 (3), Capt. N. C. Peet, '10 (6), M. C. Burritt, '08 (9), J. A. Brown, '11 (11), N. H. Humphrey, '11 (21).

The election of officers for the second term resulted as follows: President, M. P. Jones, '08; vice-president, E. I. Bayer, '09; secretary, E. H. Thomson, '09; treasurer, H. C. Young, '10. The committee for the annual banquet was announced and various matters of business were transacted or brought up for consideration. Of particular interest was the vote to appropriate money for prizes to be awarded to the winner of a declamation stage, to be held under the auspices of the Association, but partly in reference to the Extension Methods course in speaking. Another interesting feature was the report given by L. Lewis, of the meeting of American Federation of Agricultural Students at Chicago. Mr. Lewis was one of the three delegates representing Cornell at this meeting.

* * *

Professor K. C. Graham, of the Poultry Husbandry Department of the Connecticut Experiment Station lectured before the students in Poultry courses in the latter part of December. Professor Graham has devoted much time and careful investigation to the raising of pigeons and squabs, and gave the students some direct, interesting and useful statements concerning the industry.

* * *

The University Poultry Association will hold its fifth annual show February 17–20 in the Judging Pavilion Extensive efforts are being made to bring this year's show to an even higher standard than heretofore. Cash and special prizes will be offered for winning birds as well as the customary ribbons, The advertising displays and the book, circular and magazine booth will not be wanting—but increased and enlarged. During the week of the show will be held a Poultry Institute, in connection with the first annual meeting of the New York State Branch of the American Poultry Association. The Institute, however, will be under the auspices of the Bureau of Farmers' Institutes and the College of Agriculture.

* * *

The Assembly of January 9 was marked by a commendably good attendance of the Short Course men and an unusually enjoyable program. This was begun by the Glee Club, which offered more of its repetoire in a very pleasing manner. After a solo by C. J. Hunn, Professor Karapetoff, of Sibley College, gave piano selections which were received most enthusiastically and deservedly so. The Mandolin Club then added to the music of the evening and preceded Dean Bailey's address, which included readings from Wallace. Following this the social hour and light refreshments were enjoyed, this part of the evening being under the direction of the bachelor members of the Faculty.

* * *

The Department of Horticulture has received a bill for the shipment of a new apple packing machine, invented by Mr. Hall, of Rochester. The machine holds and packs a barrel of apples automatically, and it is claimed, works very satisfactorily. A more detailed description of the machine will be given in a future number.

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New appointments in the Poultry Husbandry Department are P. W. Kimball, Sp.; L. F. Boyle, '10 and B. W. Somers, W. '06.

FORMER STUDENTS

EDITOR'S NOTE.—We want to make the "Former Student" news one of the most interesting parts of the paper. To do this we are dependent on those who have graduated or left college sending us news of their whereabouts and of what they are doing. We try to write each personally but this is a difficult task. You can save us time and expense by voluntarily sending in items of interest frequently. Won't you coöperate with us in making this the most complete part of the paper?

'02, Ph. D.—Professor Leroy Anderson grew up on a New York farm and prepared for college at the Waterloo Union High School and the Mynderse Academy at Seneca Falls. After teaching for two years in the public schools of the state he came to Cornell in 1892 and received the degrees of B. S. A. in '96 and M. S. A. in '97. From 1897 to 1900 Professor Anderson remained at his Alma Mater as Assistant in Dairy Husbandry. In 1900 he was appointed Instructor at the University of California, in the newly organized department of Animal and Dairy Husbandry. The dairy school was under his charge for two terms and met with marked success. In fact his executive ability in organizing the new work in connection with the University was so well recognized that it resulted in his loss to the institution after less than two years service. In 1902 Professor Anderson returned to Cornell where he received the degree of Ph. D. in that year. But he was immediately recalled to California, this time as Director of the California Polytechnic School at San Louis Obispo. This position he held until January, '08 when he was elected Professor of Agricultural Practice and Director of Farm Schools at the University of California.

LEROY ANDERSON

The Pacific Dairy Review has this to say about Professor Anderson's new work:

"In developing the usefulness of the university farm at Davisville to meet the expectations of the people of the State, and also carry out the plans for developing the large estate donated to the university by the late Theodore Kearney near Fresno into an institution for agricultural research and education, for which he amply provided, the regents recognized that Professor Wickson would need the assistance of a man of Professor Anderson's proven executive capacity, and his recall to Berkeley has been freely prophesied for some time. It is understood that his duties as professor of agricultural practice will consist of being in charge of and directing the instruction in the short courses in agriculture to be given at Davisville and the experimental work to be carried out at the various sub-stations in charge of the university. The position, which pays a salary of $3,000 a year, carries more authority with it than any other in the agricultural department except that of the dean and director."

'07, M. S. A.—Word reaches us through Dean L. H. Bailey that the Indian students, S. N. Sil, J. N. Chakravarty, A. E. Ghosh and H. S. Dutt, all of whom took their M. S. A. degrees here last year, have safely arrived at Calcutta, India. S. N. Sil has been appointed Assistant Professor of the Bengal Agricultural College in West Bengal. Both Mr. Ghosh and Mr. Dutt have been given charge, as superintendents, of Experiment Stations in West Bengal. The nature of Mr. Chakavarty's work is not yet fully known but he will go to East Bengal. We are glad to see these men in responsible positions in their own country and we wish them the best success.

'89, B. S. A.—G. Howard Davidson graduated from the Yale Scientific school in 1888, and in the following year came to Cornell from which he received the degree of B. S. A. in

1889. After taking a years work in the American Veterinary College he assumed the management of the Alamant Stock Farm at Mill Brook, N. Y. Introducing the most modern methods and appliances in his work he began the breeding of Guernsey cattle for which he has since become quite noted. At the World's Fair his Guernseys won twenty-one prizes amounting to $1,000. He afterward won seven herd prizes at seven state fairs. Soon after this he began to import Shropshire sheep. So extensively did he go inio this work that he is not only the largest importer of Shropshires but the largest breeder of sheep in America. Of 1200 imported Shropshires last year 300 found their way to Alamont. Mr. Davidson is President of the American Shropshire Association and has been secretary of the National Association of Exhibitors of Live Stock since its formation. He is also a Director of the International Live Stock Exposition.

'05, B. S. A.—Ora Lee Jr. has been with the U. S. Bureau of Soils, Washington, D. C. since his graduation two years ago. He is at present engaged in a soil survey of Monroe County, Miss. This is the fifth area Mr. Lee has helped to survey, the others being Madison County, N. Y., Laredo, Texas, Brownsville, Texas, and Montgomery County, Va. He enjoys the work, but says he is looking forward to meeting all the fellows again at the 1908 reunion. While in college Mr. Lee was Business Manager of the *Countryman* for one year.

'06, M. S. A.—Wm. H. Homer, Jr. is located at Provo, Utah, where he is at the head of the Department of Agriculture in the Brigham Young University. He is also engaged in practical fruit growing being part owner and manager of the Timpanogos Fruit Co. which is engaged in commercial apple growing.

'07, B. S. A.—Miss M. Gunnison is occupied in raising chickens on her farm at Harbor Creek, Pa., where she has been since graduation. We learn that her scientific agriculture is inspiring things out that way and we doubt it not.

'07, B. S. A.—John J. Deshon, better known as "Nick," the famous baseball pitcher of '06 and '07 is at his home in Chenandega, Nicaragua. He intends to return to Cornell for the second term in 1908.

'08, B. S. A.—Chester J. Hunn has been appointed an Assistant Horticulturist and Gardener at the Federal Experiment Station at Honolulu, Hawaii. He has already completed the work necessary for obtaining his degree, and left for the islands January 23, to begin work immediately upon his arrival, February 5.

'08, B. S. A.—Vaugha McCaughey has also completed his course and left with Mr. Hunn for Honolulu on the 23rd. He is to teach the Biological and Natural Sciences in the Normal College and the High Schools of that country. *The Countryman* wishes both men the best of success and prosperity in their newly undertaken work.

'05 Sp.—G. T. Allen after leaving Cornell acted as official supervisor of Advanced Registry under the direction of Prof. Wing, until March last, when he became dairyman at the Woodcrest Farm, Rifton, Ulster Co., N. Y.

'06 Winter—H. W. Spears, President of the Bailey Club '06 ; and President and Manager of the Conesus Lake Creamery Co., has purchased a small farm near Rochester, N. Y., where he will put into practice the principles taught by the Poultry and Horticultural Departments of Cornell.

'04 W. D.—W. L. Markham who has been on a dairy farm at his home near Jamestown, Chautauqua Co., has recieved an appointment in the Nursery Department of the State. Under leave of absence he came to Cornell this winter as Assistant in Farm Dairy. Mr. Markham was also a student in the General Agriculture Short Course of '99.

'06 W. D.—Earl Fisk is a successful butter maker on Commissioner Gerry's Farm, at Delaware Lake, N.Y.

'04 Winter—R. R. Gould is engaged in general farming, working for his father, on his farm two miles east of Jamestown, N. Y.

'99 Winter—R. E. Briggs since leaving Cornell has acted as a traveling salesman for the Fostoria Glass Specialty Co., of Fostoria, Ohio.

'05 W. Geo. Whelock is Farm Superintendent at the George Junior Republic at Freeville, N. Y.

'06 W.—E. F. Canthen is teaching in an Agricultural High School at Wetunka, Alabama.

'07, W. Fred E. Tyler has a position on the 115-acre farm of Edward M. Sheldon at Martinsburg, N. Y.

BOOK REVIEWS

The Principles of Agriculture. Edited by L. H. Bailey. 5½x8 inches. 300 pages. Illustrated. 12th edition. Published by the Macmillan Company, New York. Price $1.25.

Written by several men all in the front rank of the various branches of agriculture, and, as Professor Bailey says in the preface, "A book of principles designed to aid those that know how to use their eyes," this book aims to present the theory and practice dealing with the soil, the plant and the animal. And throughout runs the idea that successful work in agriculture must be a matter of personality rather than of circumstances. Among its pages of instruction are embodied such ideas as not to worry about weeds; they are the incidental difficulties which are disposed of if work is carried on properly. In regard to chemistry, Professor Cavanaugh shows how to buy commercial fertilizers, and when. Professor I. P. Roberts treats of the land, its preparation and care; Professor Law shows "How the Animal Lives;" and Professor Wing discusses the feeding and care of farm animals. These are but hints at the practical information contained in the volume, which makes it a valuable part of every farmer's library.

Beef Production. By Herbert W. Mumford, Professor of Animal Husbandry, University of Illinois. 5½x8 inches. 210 pages. Illustrated. Published by the author, Urbana, Illinois. Price $1.50.

In dealing with such a subject as beef production, which as an industry has attained such immense proportions in the middle west, a writer finds an almost endless array of points worthy of note and which may be treated either in a hasty general way, or discussed at length—giving rise to a treatise of alarming proportions. Professor Mumford, however, has in his new book covered a very large field, and has included many points of view and phases of the subject that might easily have been overlooked. And each one he has discussed briefly and specifically giving definite, concise, information and advice, which is valuable both to the student and the commercial stockman.

The larger portion of the work is given up to the subject, Fattening Cattle for the Market—which is thoroughly and carefully dealt with. As the author remarks, the treatment is partly along economic relations but nevertheless includes a great variety of topics such as common diseases, dehorning, feeds, wintering, etc. The second division of the book is devoted to the raising and breeding of beef cattle in contrast to merely fattening them for a time. In this connection the theories and principles of breeding are not taken up—but definite results and conclusions of investigations are presented as guiding and instructive advice. The remaining two chapters go more carefully into feeding problems and principles and discuss balanced rations, feeding standards, etc.

As a whole Professor Mumford's book impresses one with its concreteness, conciseness and lack of wasted words and discussions, and should offer unusual advantages to the cattleman who desires to get clear, straightforward pointers in the most direct form.

NOTE:—All books reviewed in this column may be obtained through the *Countryman* at net prices, as quoted above.